

CHAPTER 1 - PURPOSE AND NEED FOR ACTION

I. PURPOSE

Pursuant to the National Environmental Policy Act of 1969 (NEPA) (P.L. 91-190, as amended), this Environmental Assessment (EA) has been prepared to identify and publicly disclose the possible environmental consequences that development of the Grand Kankakee Marsh National Wildlife Refuge (Refuge) by the U.S. Fish and Wildlife Service (Service) could have on the quality of the physical, biological, and human environment. The Refuge will be located in the 3.3 million acre Kankakee River Basin in northwestern Indiana and northeastern Illinois (Figure 1).



Figure 1 - Kankakee River Basin

Using the authorities of the Fish and Wildlife Act of 1956 and the Emergency Wetlands Resources Act of 1986, the purpose(s) of the Refuge is “*for the development, advancement, management, conservation, and protection of fish and wildlife resources*” (Fish and Wildlife Act of 1956) and “*for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions...*”(Emergency Wetlands Resources Act of 1986).

II. BACKGROUND

1. The U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service is the Nation’s primary Federal agency responsible for conserving, protecting, and enhancing America’s fish and wildlife resources and their habitats.

Authority

The authority of the Director, U.S. Fish and Wildlife Service, as delegated by the Assistant Secretary for Fish, Wildlife, and Parks (U.S. Department of the Interior), is set forth in Part 242 of the Departmental Manual (see Fish and Wildlife Service Manual at our Internet site at www.fws.gov.)

Mission of the Service

The mission of the Service is *working with others, to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people.*

Goals of the Service

- *Sustainability of Fish and Wildlife Populations:* Migratory birds, endangered fish and wildlife species, interjurisdictional fish, and marine mammals are conserved, protected, enhanced, or restored. The Service is participating in conservation of other species when its expertise, facilities, or lands can enhance state, tribal, or local efforts.
- *Habitat Conservation - Network of Lands and Waters:* An ecologically diverse network of lands and waters, of various ownerships, is conserved to provide habitats for marine mammals and migratory, interjurisdictional, endangered, and other species associated with ecosystems conserved in cooperation with others.
- *Connecting Americans to Wildlife:* The American public understands and participates in the conservation and use of fish and wildlife resources.
- *Workforce Excellence:* The Service's workforce, scientific capability, and business practices - in cooperation with the Department of Interior's scientific expertise - fully support achievement of the Service mission.

Objectives of the Service

- Assist in the development and application of an environmental stewardship ethic for our society, based on ecological principles, scientific knowledge of fish and wildlife, and a sense of moral responsibility.
- Guide the conservation, development, and management of the Nation's fish and wildlife resources.
- Administer a national program to provide the public opportunities to understand, appreciate, and wisely use fish and wildlife resources.

Functions of the Service

- Acquire, protect, and manage unique ecosystems necessary to sustain fish and wildlife such as migratory birds, resident species, and endangered species.
- Operate a National Fish Hatchery System in support of the restoration of depleted interjurisdictional fish stocks, the recovery of federally listed threatened and endangered species, and the fulfillment of Federal mitigation responsibilities.
- Provide protection of fish and wildlife from dislocation or destruction of their habitats, overuse, and industrial, agricultural, and domestic pollutants.
- Render financial and professional technical assistance to States through Federal Aid programs for the enhancement and restoration of fish and wildlife resources.
- Conduct programs of enforcement, management, and professional technical assistance to other agencies for the protection of endangered species.
- Promulgate and enforce regulations for the protection of migratory birds, marine mammals, fish and other non-endangered wildlife from illegal taking, transportation, or sale within the United States or from foreign countries.
- Conduct programs of planning, evaluation, and professional technical assistance to other agencies for the proper use and protection of fish and wildlife habitat that directly benefit the living natural resource and add quality to human life.

- Conduct programs of interpretation, education, and recreation to foster a stewardship ethic in the American public through high quality fish and wildlife oriented experiences.
- Communicate information essential for public awareness and understanding of the importance of fish and wildlife resources and interprets fish and wildlife changes reflecting environmental degradation that ultimately will affect the welfare of human beings.

The Service manages over 500 national wildlife refuges, 66 national fish hatcheries, and 78 ecological services field offices nationwide. The Kankakee River Basin is located in the Great Lakes-Big Rivers Region (Region) of the Service, which includes the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. The Region manages 1.2 million acres of land and water on 46 national wildlife refuges and 9 wetland management districts, including more than 240,000 acres in waterfowl production areas. The Region also manages 6 national fish hatcheries, 9 fisheries stations, 10 ecological services field offices, and 18 law enforcement field offices (Figure 2).



By law and treaty, the Service has national and international management and law enforcement responsibilities for migratory birds, threatened and endangered species, interjurisdictional fish, and certain marine mammals.

2. The National Wildlife Refuge System

The National Wildlife Refuge System is the world's largest and most diverse collection of lands set aside specifically for wildlife. The refuge system began in 1903 when President Theodore Roosevelt designated 3-acre Pelican Island, a pelican and heron rookery in Florida, as a bird sanctuary.

Today, over 500 national wildlife refuges have been established from the Arctic Ocean to the South Pacific, from Maine to the Caribbean. Varying in size from a half-acre parcel to thousands of square miles, they encompass more than 92 million acres of the nation's best wildlife habitats (Figure 3).

Like Pelican Island, many early wildlife refuges were created for herons, egrets, and other water birds. Others were set aside for large mammals like elk and bison. But by far the most have been created to protect migratory waterfowl. This is a result of the United States' responsibilities under international treaties for migratory bird conservation and legislation such as the Migratory Bird Conservation Act of 1929.

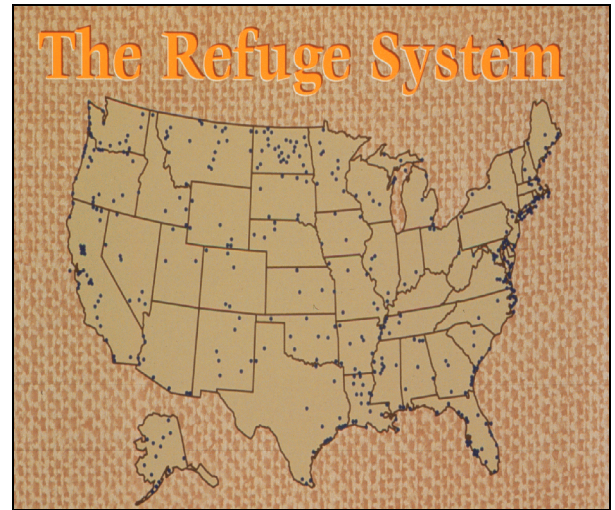


Figure 3 - The National Wildlife Refuge System

National wildlife refuges also play a vital role in preserving endangered and threatened species and their habitats. Among the refuges that are well known for providing endangered species habitat are Aransas in Texas, the winter home of the whooping crane; the Florida Panther refuge, which protects one of the nation's most endangered mammals; and the Hawaiian Islands refuge, home of the Laysan duck, monk seal, and many other unique species.



Nationwide, some 34 million visitors annually hunt, fish, observe, and photograph wildlife or participate in wildlife-dependent interpretive activities on Service national wildlife refuges.

National wildlife refuges offer the public a wide variety of wildlife-dependent recreational and educational opportunities. Many refuges have fishing and hunting programs, visitor centers, wildlife trails, and environmental education programs.

Mission of the National Wildlife Refuge System

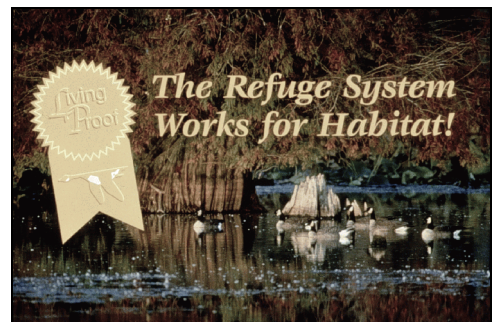
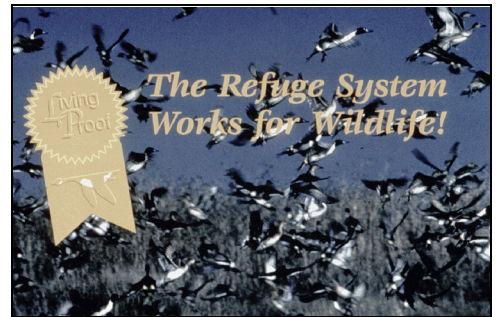
The mission of the National Wildlife Refuge System is to *administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations.*

Goals of the National Wildlife Refuge System

- Preserve, restore, and enhance in their natural ecosystems (when practical) all species of animals and plants that are endangered or threatened with becoming endangered;
- Perpetuate the migratory bird resource;
- Preserve a natural diversity and abundance of fauna and flora on refuge lands; and
- Provide an understanding and appreciation of fish and wildlife ecology and humankind's role in their environment and to provide refuge visitors with high quality, safe, wholesome and enjoyable recreational experiences oriented toward wildlife to the extent these activities are compatible with the purposes for which each refuge was established.

National Wildlife Refuge System Guiding Principles

- L *Habitat:* Fish and wildlife will not prosper without high quality habitat, and without fish and wildlife, traditional uses of refuges cannot be sustained. The Refuge System will continue to conserve and enhance the quality and diversity of fish and wildlife habitat within refuges.
- L *Public Use:* The Refuge System provides important opportunities for compatible wildlife-dependent recreational activities involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation.
- L *Partnerships:* America's sportsmen and women were the first partners who insisted on protecting valuable wildlife habitat with wildlife refuges. Conservation partnerships with other Federal agencies, state agencies, tribes, organization, industry, and the general public can make significant contributions to the growth and management of the Refuge System.
- L *Public Involvement:* The public should be given full and open opportunity to participate in decisions regarding the acquisition and management of our national wildlife refuges.



III. NEED FOR ACTION

The need for fish and wildlife restoration, preservation, and management in the Basin by the Service has been made clear by the declining status of numerous Service trust resources and studies that indicate habitat loss and degradation are common causal factors in those declines.

1. Grasslands and Associated Species Declines

The Great Plains, once the continent's largest biome, has become functionally non-existent over the last 150 years. The original tallgrass prairie, which extended from western Indiana to the eastern part of Kansas, Nebraska, and North and South Dakota and south to Oklahoma and Texas, has been virtually eliminated throughout its historic range. Recent surveys suggest that 82.6 to 99.9 percent declines in the acreage of tallgrass prairie have occurred in twelve states and one Canadian province since European settlement. Loss and fragmentation of prairie landscapes combined with changes in natural processes have had negative consequences for many grassland plants and associated animals

For years following the initial conversion of native Midwestern prairies, many prairie-dependent wildlife species remained relatively stable through their ability to colonize agricultural grasslands. However, 20th century agricultural grassland loss has followed a similar path of decline as native prairie loss in the 19th century. In many parts of the Basin, agricultural grassland are at their lowest level in more than 100 years (Figure 4).

Consequently, grassland-dependent birds have shown steeper, more consistent, and geographically more widespread declines (25-65%) than any other group of North American birds (Samson and Knopf 1994).



Tallgrass prairie habitat once dominated the landscape from western Indiana to the eastern portions of Kansas, Nebraska, and North and South Dakota and south to Oklahoma and Texas. Today less than 1 percent of original tallgrass prairie remains in the Basin.

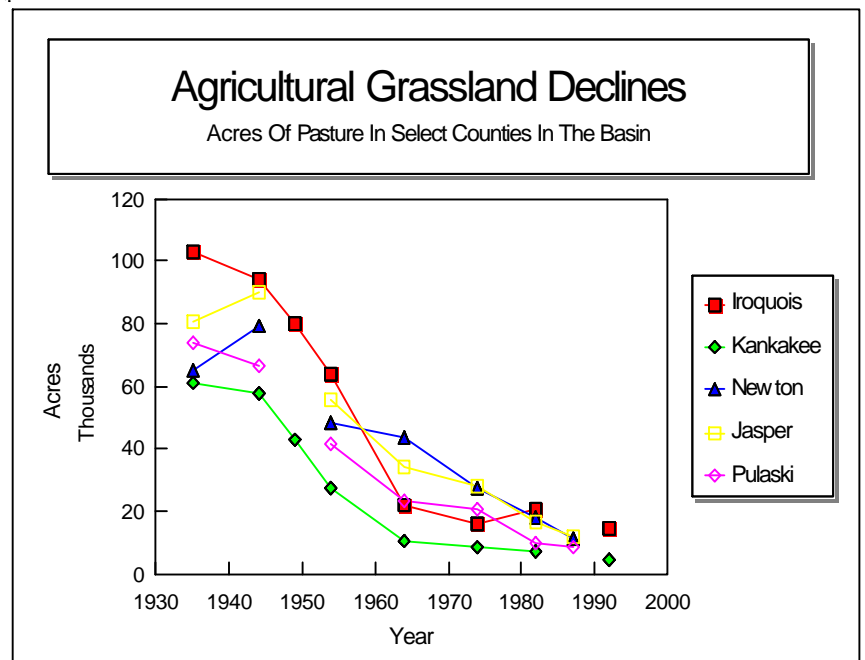


Figure 4 – Agricultural grasslands (on average) have declined throughout the Basin over the past 50 years.



The bobolink is one of several migratory grassland bird species that have shown severe declines in recent years as a result of habitat loss and degradation in the region.

Other grassland associated mammals, insects, and microorganisms are threatened with a similar fate. Currently there are 55 grassland species in the U.S. considered threatened or endangered (Samson and Knopf 1994).

Breeding Bird Surveys for the Great Lakes-Big Rivers Region indicate that grassland-nesting non-game species such as the grasshopper sparrow (-5.5%), dickcissel (-3.6%), bobolink (-3.3%), Henslow's sparrow (-7.6%), vesper sparrow (-1.7%), savannah sparrow (-1.1%), lark sparrow (-2.7%), field sparrow (-3.0%), eastern meadowlark (-2.9%) and western meadowlark (-4.0%) have shown significant average annual declines since the mid-1960's (National Biological Survey 1995).

Until the 1950's, many remnant prairie tracts were surrounded by agricultural grasslands (haylands/pasture) which helped support their natural structure and function. Today, few of these agricultural grasslands remain (Figure 4), causing many prairie remnants to become islands surrounded by row-crop fields and other development. Further, much of the remaining tallgrass prairie habitat in the Basin is highly fragmented and dominated by human activity (the process by which habitats are broken up

into smaller isolated parcels is called habitat fragmentation). Without proper management, these areas will continue to degrade due to their size, isolation, absence of natural processes such as fire and hydrologic cycle maintenance, and inadequate buffers protecting them from surrounding agricultural and urban land uses. Habitat fragmentation diminishes habitat suitable for area-sensitive species, like the bobolink.

Herkert (1991) considered 10-30 ha the bobolink's minimum area requirements (minimum amount of contiguous grassland habitat required before an area will be occupied by a species). Habitat size, shape, and amount and type of edge are important factors in the reproductive success of many grassland birds. Restoration and preservation of ecosystem structure and function requires management actions to mitigate or reverse the effects of human-induced influences.



Red fox and other predators prey extensively on birds, their eggs, and their young.

Ground nesting birds that utilize these remaining prairie areas must now concentrate their nesting effort in small scattered parcels of habitat with large amounts of linear edge, where predators such as red fox, striped skunk, and raccoon easily forage. Large native predators (wolves, cougar and bear) which historically preyed on bison, deer, and livestock, have been eliminated from the area and naturally replaced by medium-sized predators (fox, skunk, raccoon) that prey extensively on birds, their eggs, and their young. Further, fire control and woody plantings have favored increases in numbers of forest-edge birds, historically only present in mid-western oak and eastern deciduous forests (Samson and Knopf 1994), thus adding to the competition for remaining habitat.

2. Oak Savanna and Associated Species Declines

Prior to European settlement, oak savanna covered approximately 27-32 million acres of the Midwest (Nuzzo 1985). This same author indicates that in 1985, only 113 sites (2,607 acres) of high-quality oak savanna remained. Historically, nearly 1,605,500 acres or 7.5% of Indiana was either prairie or oak-savanna, most of which occurred in the Grand Prairie Natural Region (Betz 1978) (Figure 5). Over 99 percent of the original savanna has been lost, and mid-western oak savanna are among the rarest ecosystems in the world. Development has destroyed, fragmented, and disrupted natural processes needed to maintain quality oak savanna ecosystems. Despite this, the Kankakee River Basin contains among the greatest concentrations anywhere of what remains.

Associated species of concern to the Service found in this habitat type in the Basin include the red-headed woodpecker, northern flicker, and loggerhead shrike.



Remnant oak savanna in Indiana. Oak savanna in the Basin constitutes among the best and most concentrated Midwest oak savanna anywhere.



Midwest oak savannas are among the world's most threatened communities (Anderson, et al. 1993). Oak savanna remains among the most vulnerable to loss in the Basin, especially from development.

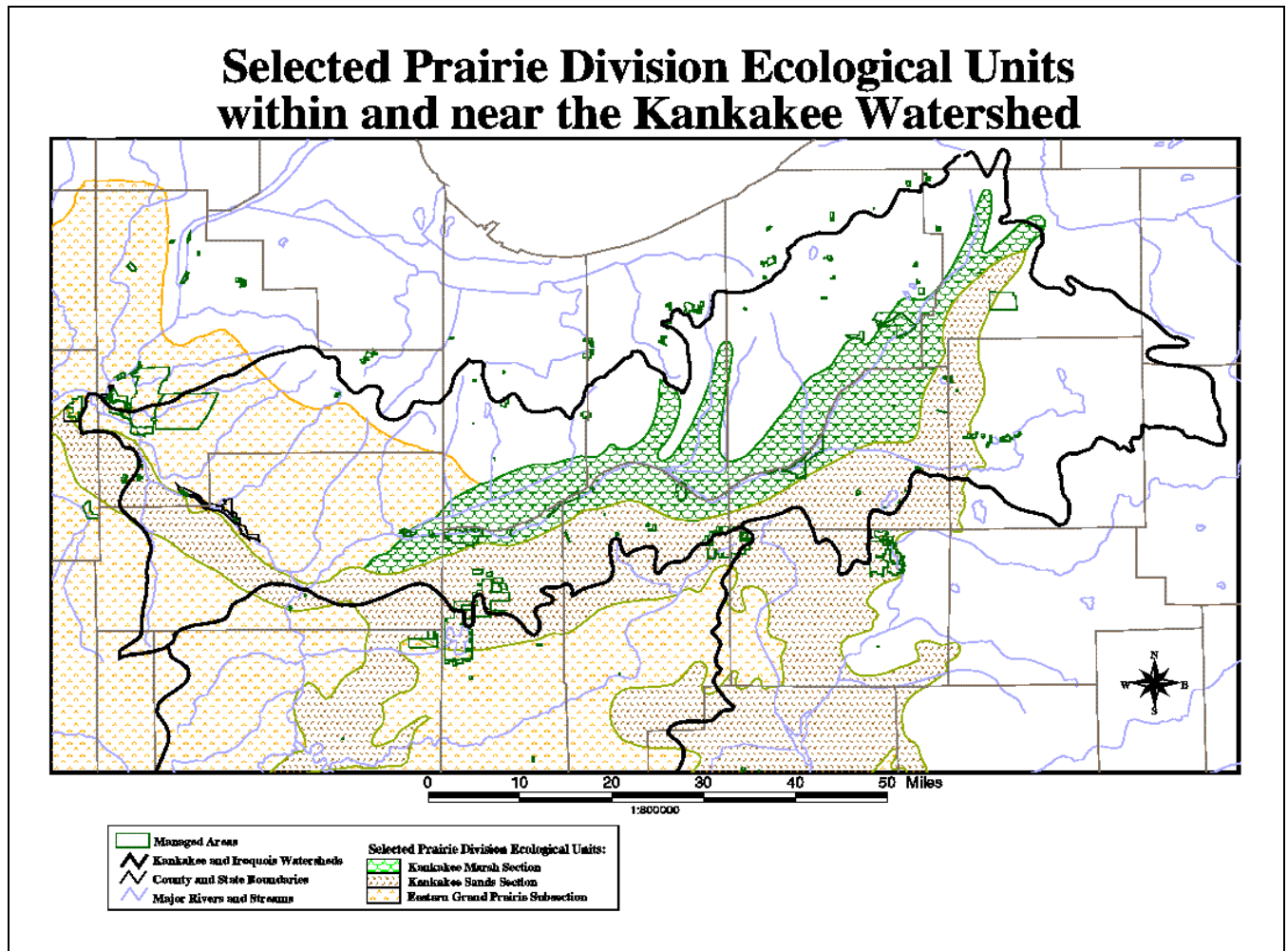


Figure 5 – The occurrence of the Grand Marsh within the eastern peninsula of the tallgrass prairie juxtaposed wetlands, tall-grass prairie, and oak savanna in one watershed.

3. Wetlands and Associated Species Declines

Of the estimated 221 million acres of wetland habitat present in the lower 48 states at the time of colonial America, only 103 million acres remain (47%). Draining, dredging, filling, leveling, and flooding have reduced wetlands by 50% or more in 22 states, and 10 states have lost 70 percent or more (Dahl 1990). The recent trend in wetland loss across America developed in three phases. From the 1950's to the mid - 1970's, agricultural conversions accounted for 87 percent of all wetland losses. Much of this drainage work was subsidized with Federal funds to encourage increased production of commodity crops. From the mid - 1970's to the mid - 1980's, wetland losses were more evenly distributed between agricultural land use and "other" land use with agriculture accounting for an estimated 54 percent of wetland losses. During this period, the average annual loss of wetlands was approximately 290,000 acres (Dahl, 1991). Since the mid-1980's, indications are that wetland losses are slowing due to programs protecting wetlands and a growing public recognition of the values of wetlands.

Of the 8,212,000 acres of wetlands that existed in Illinois, only 15 percent remain. With intensifying agriculture, rapidly expanding urban pressures, and increasing industrialization, both the quantity and

quality of wetland habitat continue to decline in Illinois. Likewise, of the estimated 5,600,000 acres of wetlands that existed in Indiana prior to European settlement, a mere 13 percent remain (Rolley, 1991). Historically, about 85 percent of the wetland loss in Indiana has been for agricultural purposes with the remainder attributable to urban and industrial development (Indiana DNR, 1988). Currently, the Indiana Division of Fish and Wildlife and the Service estimate an annual loss of 5 percent of remaining wetlands.

Of the wetlands remaining in Indiana and Illinois, only a small percentage remain as they existed 200 years ago, and few support their original complement of plants and animals. This biological diversity has been degraded as a result of impacts to water quality, alterations of water levels and upstream watersheds, and other surface disturbances. The seriousness of this loss is best recognized by the fact that in Indiana over 120 different plants that occur naturally in wetlands and over 60 species of wetland-dependent animals are listed as either endangered, threatened, or of special concern by the Indiana Department of Natural Resources (IDNR). Of all wetland types, the palustrine-forested wetlands (bottomland hardwoods) have been identified in Indiana as the "state wetland priority type." This means priority for protection is based on the historical pattern of loss and alterations occurring in Indiana and the multiple value they have to fish, wildlife, and plant resources (Indiana DNR, 1988).

Historically, the Kankakee River Basin was among the most important freshwater wetland ecosystems in the world, supporting a rich and diverse composition of fish, wildlife, and plants. This unique landscape was important for its diverse plant life, breeding grassland-dependent species, and was internationally renowned for its abundance of waterfowl and other wetland-dependent wildlife. Historical records indicate marshes along the Kankakee River comprised nearly a million acres, ranging from 1 to 14 miles in width and spread over two distinct areas: the "grand marsh", which included about 400,000 acres and remained flooded throughout most of the year, and the "upper marsh", which included about 600,000 acres that was frequently, but not permanently flooded. Today only remnants remain, and few of these support the full array of plants and animals which existed in this habitat originally.

Wetlands are important because they provide habitat for about one-third of our Federally listed threatened or endangered plant and animal species. They provide essential nesting, migratory, and wintering areas for more than 50 percent of our Nation's migratory bird species. Over one third of our Nation's biological organisms are found in wetlands, yet wetlands occupy a mere 3 percent of our Nation's land surface.

Associated species of concern to the Service found in this habitat type in the Basin include the Mitchell's satyr butterfly, sedge wren, veery, black tern, American bittern, and the eastern massasauga rattlesnake.



American bittern with young

4. Threatened And Endangered Species

Several Federally endangered and threatened species occur in the Kankakee River Basin. These include the Mitchell's Satyr butterfly (*Neonympha mitchellii*), Indiana bat (*Myotis sodalis*), copperbelly watersnake (*Nerodia erythrogaster neglecta*), Mead's milkweed (*Asclepias meadii*), and eastern prairie-fringed orchid (*Platanthera leucophaea*). The Hine's emerald dragonfly (*Somatochlora hineana*) is a Federally listed species that may occur in the Basin although no populations have been documented. The eastern massasauga (*Sistrurus catenatus catenatus*) is a species currently under review for listing. Both the Mitchell's satyr and the Indiana bat inhabit sites within the Basin. In addition, counties that contain focus areas include more than 75 state-listed species. For example, in the Kankakee River or its tributaries in Illinois, six species of mussels and 6 fish species are listed as either state threatened or state endangered. In Indiana, grassland adapted mammals like the plains pocket gopher (*Geomys bursarius*) and Franklin's ground squirrel (*Spermophilus franklinii*) are state-listed species.



Mitchell's Satyr butterfly, one of several endangered species found in the Basin.

5. Urban Sprawl

Urban sprawl is a principal threat to both agriculture and natural systems in the Kankakee River Basin. The human population within the region is rapidly expanding, introducing greater development pressures on undeveloped lands and making opportunities for future habitat restoration and preservation more scarce and costly. Many existing natural areas within the Basin face increasing threats to their naturalness from air and water pollution, exotic species, and particularly habitat fragmentation caused by development. Population growth, sedimentation, runoff, and urban development are all expected to increase in the Basin.

The U.S. population of 266.5 million is growing by about 2.5 million persons per year. The Census Bureau projects that the U.S. population will reach 347 million by 2030 if current trends continue. The Basin has a current population of approximately 1.6 million. This population is expected to increase significantly as more people move southward from Chicago metropolitan areas.

According to a recent study just released by the Chicago-based Openlands Project, the Chicago metropolitan region is predicted to double in size over the next 30 years. It is estimated that the population will grow by 48% during the next 30 years, but land development will increase by a whopping 165%. Moreover, the authors of the report contend that without concerted efforts to contain growth, urban sprawl threatens to reach north to Milwaukee, west to Dekalb, south to Kankakee, and east to South Bend, Indiana.

Similarly, the comprehensive plan for Kankakee County, Illinois, states: "residential growth for the most part has taken place in or near the urban areas of the county. However, in recent years another trend has

become prevalent, that is, small, scattered subdivision and metes and bounds divisions in outlying areas." (Kankakee County Regional Planning Commission 1992). Over time, these development processes could increase flood peaks, increase runoff and sedimentation, and subject more property to damage at higher monetary costs. Demands for certain types of recreation could also intensify, putting many important biological resources at higher risks.

Land use within the Basin has changed enormously from pre-settlement wetlands, prairies, and oak savannas to intensive agriculture. The Basin is currently undergoing a second generation of human-induced change from agricultural ecosystems to a more densely developed state aptly called "rurbanization" (Figure 6). It is this type of development that particularly threatens the remaining oak-savanna habitat in this region. The effect of rurbanization on species dependent on the existing landscape could produce impacts as significant as those that resulted from the change from natural to agricultural ecosystems. An emerging concept in conservation biology is discontinuity and synergism which suggests that stresses to the environment can work in concert to produce rapid and unexpected environmental consequences (Myers 1996). Not only the most conservative species, but species that we cannot anticipate could be extirpated as the Basin changes from rural to urban.

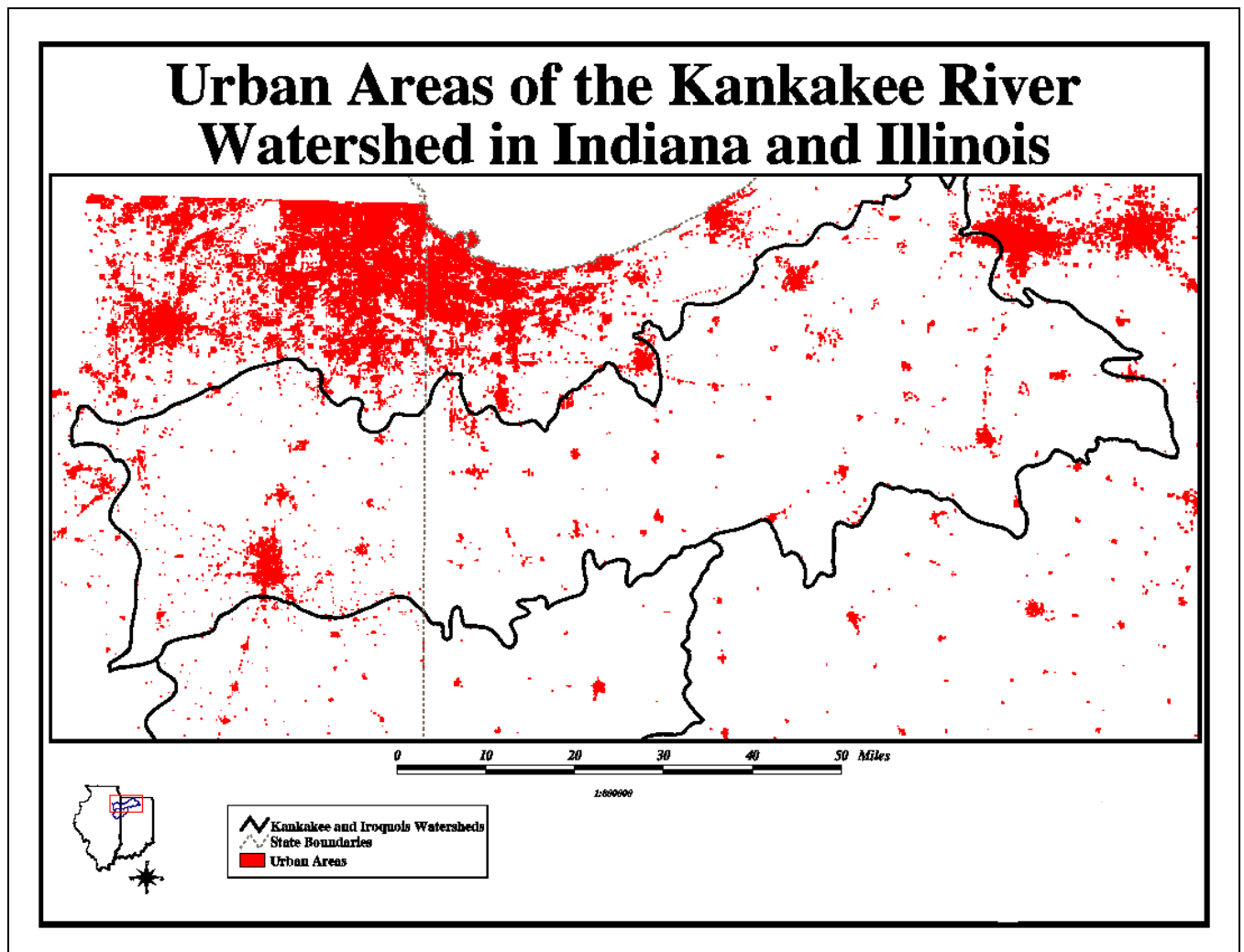


Figure 6 – Urban sprawl approaching the Basin. The Chicago-based Openlands Project predicts the Chicago metropolitan region will double in size over the next 30 years.

6. High Restoration Potential

The Kankakee River Basin has the biological foundation necessary for a highly significant contribution to the conservation of fish and wildlife resources of continental importance.

First, the Basin's historic importance to waterfowl, other migratory birds, and fish is well documented. As stated earlier, the occurrence of the grand marsh within the eastern peninsula of the tallgrass prairie juxtaposed wetlands, tall-grass prairie, and oak savanna in one watershed (Figure 5).

Second, high quality remnant and restorable wetlands, oak savanna, and prairie habitat remain there. Most of the existing wetlands once formed part of the grand marsh, a wetland area of continental importance that covered numerous counties in 2 states. The oak savanna in the Basin constitutes among the best and most concentrated Midwest oak savanna anywhere. While very little prairie has persisted, there is an opportunity to protect and enhance the small "islands" that endure. Some pieces of the puzzle are left, some will have to be remade, and a broad partnership will be required to put the puzzle together.

Third, the Basin still has a comparatively sparse human population, although development is underway and is expected to increase significantly. One of the most compelling arguments for pursuing a bold plan to restore an important part of this watershed now is that the opportunity to achieve landscape scale restoration and protection exists now. It is conceivable that in a few decades or less, because of more intensive landuse, the chance to work across the watershed restoring ecosystem structure and function will be lost forever.

Fourth, the Kankakee River corridor links multiple managed core areas of habitat. The Service recognizes that outstanding conservation work has already occurred in the Basin. The proposed Refuge provides another mechanism to augment existing protection and restoration efforts in a larger context. A useful analogy might be assembling a bicycle. The wheels, the pedals, the handlebars, and the seat are there, but they require a frame to make the bicycle function. The proposed Refuge can be seen as the frame that holds these critical parts together.

Finally, there are several influential conservation partnerships currently working in the Basin, such as the U.S. Army of Corps of Engineers, the U.S. Department of Agriculture, the Illinois and Indiana DNR's, The Nature Conservancy, and several effective local groups. The challenge for the Service is to provide a compelling vision of landscape scale restoration in the Kankakee that will inspire a cooperative effort to achieve it. The Service has demonstrated through its Partners for Fish and Wildlife program and the North American Waterfowl Management Plan (NAWMP) the feasibility of working with the states, other partners, and private landowners to restore wetlands and native grasslands in the Basin. By continuing this effort, the Service can provide the leadership necessary for a comprehensive and coordinated approach to ecosystem restoration in the Basin

IV. PROPOSED ACTION

The Service's proposed action in this EA is to develop the Grand Kankakee Marsh National Wildlife Refuge "for the development, advancement, management, conservation, and protection of fish and wildlife resources" (Fish and Wildlife Act of 1956) and for "the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..."(Emergency Wetlands Resources Act of 1986). The Service's aim is to expand and accelerate past and present efforts of the Grand Kankakee Marsh Restoration Project of the North American Waterfowl Management Plan, a multi-partner conservation coalition which has been restoring wetlands and associated uplands in the Basin for several years. The following Refuge mission, vision, guiding principles, goals, objectives, and strategies provide an interim framework for the Refuge until a Comprehensive Conservation Plan has been completed (approximately 12-18 months).

Refuge Mission Statement

The mission for the Refuge will be to protect, restore, and manage ecological processes within the Kankakee River Basin that benefit threatened and endangered species, migratory birds, native fish, and diverse flora and fauna populations, while providing the public, to the extent possible, high quality wildlife-dependent environmental interpretation, education, and recreation experiences that build an understanding and appreciation for these resources, and the role humankind plays in their stewardship.

Refuge Vision Statement

The Service's vision for the Refuge is to restore and preserve an ecological system that supplies the needs of migratory waterfowl, neotropical migratory songbirds, native fish, native plant communities, and threatened and endangered flora and fauna. The Refuge and its staff will be leaders in building mutually-beneficial relationships with the public and our partners which will lead to a greater understanding and appreciation of the natural world, and the role humankind plays in its stewardship.

Guiding Principles

Development and management of the Refuge will be guided by the following principles:

- L** *Use an ecosystem approach:* The ecosystem approach is a collaboratively developed vision of desired future conditions that integrates ecological, scientific, economic, and social factors. It is applied within a geographic framework based primarily on ecological factors.
- L** *Rely on sound science:* Restoration and preservation of ecological processes will be scientifically sound, ecologically credible, economically and socially acceptable, and legally defensible. Refuge management decisions will be based on sound information from the full range of natural and social sciences.
- L** *Use adaptive management processes:* An adaptive management approach features a structured, iterative process that recognizes that most information used in decision making is imperfect and that, as decisions are made, a process is in place to gain better information and to allow managers to make appropriate mid-course corrections.
- L** *Results through partnerships:* Partnership initiatives require extensive coordination and communication between Federal agencies; state, tribal, and local governments; and stakeholders and customers.

- L** *Ensure public involvement:* Refuge planning will include a clear, credible, and meaningful role for public input from the full spectrum of social and cultural backgrounds. Public sentiment and comment at the local, State, and national levels will be considered.

1. Interim Refuge Goals

Interim Refuge goals will be consistent with those for the National Wildlife Refuge System. They are:

- Preserve, restore, and enhance in their natural ecosystems (when practical) all species of animals and plants that are endangered or threatened with becoming endangered;
- Perpetuate the migratory bird resource;
- Preserve a natural diversity and abundance of fauna and flora on refuge lands; and
- Provide an understanding and appreciation of fish and wildlife ecology and humankind's role in their environment and to provide refuge visitors with high quality, safe, wholesome and enjoyable recreational experiences oriented toward wildlife to the extent these activities are compatible with the purposes for which each refuge was established.

2. Interim Refuge Objectives and Strategies:

Coordination:

- L** Provide Service leadership and support to other Federal, state, local, and private agencies for the restoration and preservation of ecological processes in the Basin that benefit migratory birds, threatened and endangered species, native fish, and their habitats (Service trust resources).
- L** Foster improved communication and collaboration between Service programs, the states, non-government organizations, and other Federal agencies.
- L** Focus Federal, state, and local agencies having related responsibility and/or expertise in the Basin to increase efficiency and develop consistency in natural resource conservation.
- L** Accelerate the current status and trends effort toward natural resource restoration and preservation in the Basin through a comprehensive and coordinated system, that complements existing authorities.
- L** Intensify and concentrate Federal, state, local, and private habitat restoration and enhancement mechanisms aimed at benefitting Service trust resources in the Basin (such as the Wetlands Reserve Program, Conservation Reserve Program, Environmental Quality Incentives Program, Wildlife Habitat Incentives Program, set-aside programs, North American Waterfowl Management Plan, local land trusts, water quality improvement programs, etc.).

Planning

- L** Provide a comprehensive statement of Refuge management direction through the development of a Comprehensive Conservation Plan (CCP) and associated step-down management plans by 2001 (the CCP will replace guidance contained in the draft conceptual management plan which was included with the draft EA)(see appendix V for planning process and schedule).
- L** Provide avenues for effective coordination, interaction, and cooperation with affected parties, including Federal agencies, state conservation agencies, tribal governments, local governments, non-government organizations, and landowners.

Research

- L Support, promote, and coordinate scientific research on, and monitoring of, Service trust resources and their habitat, to improve management decision-making.
- L Use expertise from various agencies, universities, and other sources to develop and disseminate knowledge about natural resources and human uses and values associated with those resources.

Habitat Restoration and Management

- L Through a combination of voluntary partnerships, easements, and land acquisition, restore and preserve approximately 30,000 acres of wetlands, prairie, and oak savanna habitat to meet the needs of migratory birds, threatened and endangered species, and aquatic resources in the Basin (willing buyer/willing seller only).
- L Leverage Service restoration and preservation efforts by connecting or enlarging existing managed areas.
- L Restore backwater habitats and reconnect side channels that have been artificially cut-off on the Kankakee River to promote biological diversity and rehabilitate fish spawning, nursery, and overwintering areas.
- L Restore and manage areas at the landscape scale to provide the most favorable matrix possible for the refuge and other protected areas (see Noss and Harris 1986, O'Connell and Noss 1992, Missouri Dept. of Conservation 1994).
- L Intensify the Service's Partner's for Fish and Wildlife habitat restoration efforts and identify new opportunities to restore wetlands and grasslands on private lands.

Education, Interpretation, and Recreation

- L Expand public awareness, understanding, appreciation, and stewardship of the Basin's natural resources through high quality wildlife-dependent public education, interpretation, and recreation programs on Refuge lands.
- L Establish Refuge outreach programs to develop a more involved citizenry in support of fish and wildlife conservation.

Successful development of this Refuge will rely on partnerships formed with landowners in the Basin, volunteers and interested citizens, farm and conservation organizations, and other government agencies. Restoration and preservation of habitat by the Service would be on a willing buyer/willing seller basis only. Only lands that the Service acquires would become part of the Refuge. All lands acquired by the Service would be managed as units of the Grand Kankakee Marsh National Wildlife Refuge. Funding for Service land acquisition would be the Land and Water Conservation Fund using the authority of the Fish and Wildlife Act of 1956, and the Migratory Bird Conservation Fund using the authority of the Migratory Bird Conservation Act.

V. PROJECT INCEPTION

The Service has long been aware of the tremendous natural resource value of the Basin. The following Federal, state, local, and private entities, resource management plans, and conservation initiatives helped

provide background and a framework for the Service's proposed action. Appendix V contains an outline of the planning process the Service followed for this project.

In 1986, to address the declining status of North American waterfowl populations, the United States and Canada signed the **North American Waterfowl Management Plan (NAWMP)**. The purpose of the NAWMP is to restore a continental breeding population of 62 million ducks, including 8.7 million mallards, 6.3 million pintails, and a fall flight of 100 million ducks during years of average environmental conditions. Habitat objectives for the **Upper Mississippi River and Great Lakes Region Joint Venture - Kankakee River Basin Focus Area** in Indiana include "permanently protect, enhance, restore, and/or create 28,000 acres of wetland and associated uplands on public and private lands by the year 2012." In Illinois, the 1,900-acre Momence wetlands are part of the Northeastern Illinois Focus Area, representing one of the last good examples of the historic Grand Kankakee Marsh.

In 1986, the U.S. Congress authorized the Emergency Wetlands Resources Act to protect critical wetlands and promote wetland conservation. One of the requirements of the Act was the preparation of a national plan to identify high priority wetlands for protection. In 1989 the Department of the Interior developed the **National Wetlands Priority Conservation Plan**, as directed by the Act.

The **Kankakee River Master Plan** (SEG Engineers and Consultants, Inc. 1989) was developed through funding from the Indiana Legislature. The Plan proposed 30 miles of setback levees on each side of the Kankakee River to contain the 100 year flood, alleviate land-use conflicts, and address environmental concerns in the Indiana portion of the Kankakee River Basin.

In 1990, the Service developed a **Regional Wetlands Concept Plan** for the Great Lakes-Big Rivers Region (Illinois, Indiana, Minnesota, Iowa, Missouri, Wisconsin, Michigan, and Ohio). The purpose of the plan was to identify wetlands that were valuable for protection in conformance with the Emergency Wetlands Resources Act of 1986. One of the recommendations in the Regional Wetland Concept Plan for the States of Illinois and Indiana was restoration and protection of palustrine-emergent and palustrine-forested wetland habitat within the Kankakee River Basin.

The **Corps of Engineers** recently completed a "Reconnaissance study" of the Kankakee River Basin that evaluates measures to integrate flood control, ecological protection and restoration, and recreational enhancement within the Basin. That report recommended a more detailed "Feasibility Level" study that would investigate flood damage problems along the Kankakee River and provide recommendations for implementable measures fostering flood control, ecological values, and recreational opportunities. Objectives of that study are to 1) reduce over-bank flood damages along the Kankakee River and its tributaries in Indiana and Illinois, 2) adhere to state of Indiana and Illinois storm water management ordinances and regulations, 3) preserve and/or enhance the social, cultural, ecological, and recreational resources in the Basin, 4) where possible, guide plan formation efforts to be compatible with, and integrate into, existing and future Federal, state, county, and local facilities and flood control projects, and 5) protect, enhance, and restore natural resources and recreational facilities within the Basin.

On April 16, 1999, the Service and U.S. Army Corps of Engineers signed an interagency partnership agreement (appendix III) to work together on Refuge planning and flood control through ecosystem restoration activities within the Basin. As part of that agreement, the Service made a commitment not to adversely impact flood control efforts of the U.S. Army Corp of Engineers.

The **Illinois DNR** has developed a list of Priorities for the Kankakee Sand Area Section in Illinois. These include management of the floodplain forest along the Kankakee River, protection of the high quality aquatic environment of the Kankakee River ecosystem from Indiana to the confluence with the Des Plaines River, protection of the sand savanna and sand prairie of this Grand Prairie Natural Division (particularly the southeastern Kankakee County/northeastern Iroquois County area), and linking the Iroquois State Fish and Wildlife Area in Illinois and the Willow Slough Fish and Wildlife Area in Indiana (William Glass, Illinois Dept. of Natural Resources, 3 July 1996, personal communication).

Likewise, the **Indiana DNR** manages several nodes of habitat along the Kankakee River and is similarly interested in protection of important natural features, particularly wetlands and sand savanna/prairie in the Basin.

Earlier this year, **The Nature Conservancy** purchased approximately 7,200 acres of historic wetlands, prairie and oak savanna with the goal of implementing a long-term restoration project. This site lies immediately south of the Kankakee River in Newton County, Indiana.

VI. SCOPING AND PUBLIC INVOLVEMENT

Scoping is the process of identifying opportunities and issues related to a proposed action. The Service publicly announced it was evaluating the feasibility of developing a new National Wildlife Refuge in the Kankakee River Basin in June 1997. Prior to that, the Service held informational briefings on the project for congressional members and staff, Federal, state, and local partners, and many others at their request.

Numerous Federal, state, local, and private entities were involved in the scoping process. These include Indiana's and Illinois' Congressional Delegations, the U.S. Department of Agriculture, U.S. Department of Interior, Indiana and Illinois Legislative members representing the counties involved, Indiana Department of Natural Resources, Illinois Department of Natural Resources, representatives from County, Township, and other local governments, representatives of national, state, and local conservation organizations, Farm Bureau, landowners, and many other interested groups and citizens.

Information about the proposed project was provided to the general public through news-releases, presentations, interviews, seven newsletters (appendix VI), one-on-one briefings, and the Internet.

In June 1997, the Service hosted three public meetings in Knox and Enos, Indiana, and Bradley, Illinois, to exchange information on the Refuge proposal. In total, approximately 300 people attended those meetings.

In March 1998, the Service issued a Draft Environmental Assessment to publicly disclose the possible environmental consequences that development of the Refuge by the Service could have on the quality of the physical, biological, and human environment.

On May 26 and 27, 1998, the Service held public hearings in Wheatfield, Indiana, and Kankakee, Illinois, to encourage additional public comment. Approximately 600 people attended the Wheatfield meeting and approximately 60 attended the meeting in Kankakee.

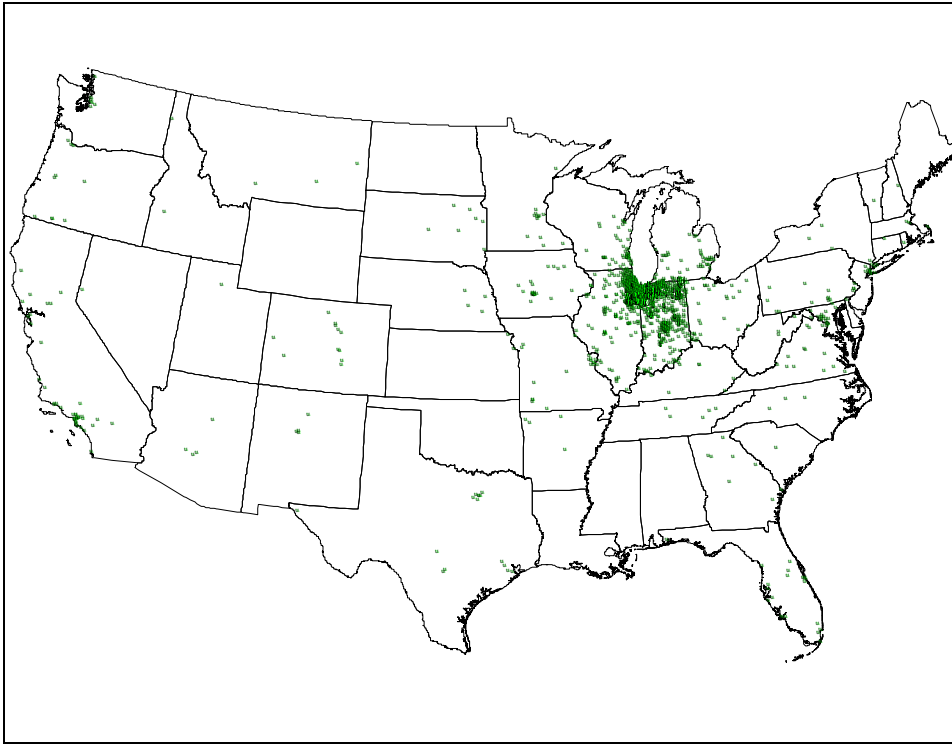


Figure 7 –Distribution of comment letters received by the Service regarding the proposed Refuge since planning was initiated in June 1997 .

On August 20, 1998, the Service closed a 150-day comment period on the Draft Environmental Assessment prepared for the project.

The Service coordinated its scoping effort closely, and corresponded frequently with many of the aforementioned entities. To-date, more than 14,000 people from 44 different states (Figure 6) have inquired and/or commented on the refuge proposal.

Comments have covered a wide range of potential opportunities and concerns. Many comments encouraged the development of a new national wildlife refuge, while others cited potential conflicts that would need to be addressed before the Refuge proposal moved forward.

From questions raised in conversations and correspondence with individuals and organizations, the Service identified several opportunities and issues facing this Refuge proposal, namely: If developed, what effect would the Refuge have on:

- 1) Biological diversity and abundance
- 2) Water quality in the Kankakee River
- 3) Agricultural land
- 4) Drainage, runoff, and flood control within the Basin
- 5) County tax revenues and refuge revenue sharing payments and apportionment
- 6) Local economies
- 7) Private property rights
- 8) Infrastructure (roads and road maintenance/sewer and water systems)
- 9) Mosquitos
- 10) Other planning efforts in the Basin
- 11) Environmental justice

The Service addressed these and other opportunities and concerns in Chapter 4 of this EA, the appended Economic Impact Assessment prepared by Purdue University (appendix I), the appended “Frequently Asked Questions” (appendix II), and through several of the project Newsletters (appendix VI).

VII. LEGAL COMPLIANCE

Management and administration of the Refuge will be mandated by a number of laws (Acts) and Executive Orders (EO's). Some of these include:

- T *National Wildlife Refuge System Improvement Act of 1997* (Refuge Administration Act). This Act defines the National Wildlife Refuge System and authorizes the Secretary to permit any use of a refuge provided such use is compatible with the major purposes for which the refuge was established. The Refuge Improvement Act clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority wildlife-dependent public uses (hunting, fishing, wildlife observation and photography, or environmental education and interpretation); establishes a formal process for determining compatibility; established the responsibilities of the Secretary of Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.
- T *National Wildlife Refuge System Administration Act of 1966*. This Act defines the National Wildlife Refuge System as including wildlife refuges, areas for the protection and conservation of fish and wildlife which are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, and waterfowl production areas. The Secretary is authorized to permit any use of an area provided such use is compatible with the major purposes for which such area was established. The purchase consideration for rights-of-way go into the Migratory Bird Conservation Fund for the acquisition of lands. By regulation, up to 40 percent of an area acquired for a migratory bird sanctuary may be opened to migratory bird hunting unless the Secretary finds that the taking of any species of migratory game birds in more than 40 percent of such area would be beneficial to the species. The Act requires an Act of Congress for the divestiture of lands in the system, except (1) lands acquired with Migratory Bird Conservation Commission funds, and (2) lands can be removed from the system by land exchange, or if brought into the system by a cooperative agreement, then pursuant to the terms of the agreement.
- T *Refuge Recreation Act of 1962*. This Act authorizes the Secretary of the Interior to administer refuges, hatcheries, and other conservation areas for recreational use, when such uses do not interfere with the areas' primary purposes. It authorizes construction and maintenance of recreational facilities and the acquisition of land for incidental fish and wildlife oriented recreational development or protection of natural resources. It also authorizes the charging of fees for public use.
- T *National Wildlife Refuge System Volunteer and Community Partnership Act of 1998*. The purpose of this Act is to 1) encourage the use of volunteers to assist the Service in the management of refuges within the NWRS; 2) facilitate partnerships between the NWRS and non-Federal entities to promote public awareness of the resources of the NWRS and public participation in the conservation of those resources; and 3) encourage donations and other contributions by persons and organizations to the NWRS.
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- T *Fish and Wildlife Improvement Act of 1978.* This act was passed to improve the administration of fish and wildlife programs and amends several earlier laws including the Refuge Recreation Act, the National Wildlife Refuge System Administration Act, and the Fish and Wildlife Act of 1956. It authorizes the Secretary to accept gifts and bequests of real and personal property on behalf of the United States. It also authorizes the use of volunteers on Service projects and appropriations to carry out a volunteer program.
- T *National Environmental Policy Act of 1969 (NEPA).* The purposes of the NEPA are to: declare a national policy which will encourage productive and enjoyable harmony between man and his environment; promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; enrich the understanding of the ecological systems and natural resources important to the Nation; and establish a Council on Environmental Quality.
- T *The Endangered Species Act of 1973, as amended.* This Act ensures that projects not affect the continued existence of any endangered or threatened species in the project area or result in destruction or adverse modification of their critical habitats.
- T *Migratory Bird Conservation Act of 1929.* The Act established the Migratory Bird Conservation Commission which consists of the Secretaries of the Interior (chairman), Agriculture, and Transportation, two members from the House of Representatives, and an ex-officio member from the state in which a project is located. The Commission approves acquisition of land and water, or interests therein, and sets the priorities for acquisition of lands by the Secretary for sanctuaries or for other management purposes. Under this Act, to acquire lands, or interests therein, the state concerned must consent to such acquisition by legislation. Such legislation has been enacted by most states.
- T *Emergency Wetlands Resources Act of 1986.* This Act recognizes the importance of wetlands and their role in providing public benefits.
- T *Fish and Wildlife Act of 1956.* Under this Act, the Secretary of Interior is authorized to take such steps as may be required for the development, advancement, management, conservation, and protection of fish and wildlife resources including but not limited to research, development of existing facilities, and acquisition by purchase or exchange of land and water or interests therein. The Act also authorizes the Service to accept gifts of real or personal property for its benefit and use in performing its activities and services. Such gifts qualify under Federal income, estate, or gift tax laws as a gift to the United States.
- T *Land and Water Conservation Fund Act of 1965.* This Act provides funding through receipts from the sale of surplus Federal land, appropriations from oil and gas receipts from the outer continental shelf, and other sources for land acquisition under several authorities. Appropriations from the Fund may be used for matching grants to states for outdoor recreation projects and for land acquisition by various Federal agencies, including the Service.

- T *Refuge Revenue Sharing Act of 1935, as amended.* This act requires revenue sharing provisions to all fee-title ownerships that are administered solely or primarily by the Secretary through the Service.
- T *Uniform Relocation and Assistance and Real Property Acquisition Policies Act of 1970, as amended.* This Act provides for uniform and equitable treatment of persons who sell their homes, businesses, or farms to the Service. The Act requires that any purchase offer be no less than the fair market value of the property.
- T *The Archeological Resources Protection Act of 1979.* Section 14 of the Archaeological Resources Protection Act of 1979 requires an inventory program of all Federal lands. This Act expands upon the Antiquities Act to protect all archeological sites more than 100 years old on Federal land, and to ensure that archeological investigations on Federal land are performed in the public interest by qualified persons.
- T *The National Historic Preservation Act of 1966, as amended; Executive Order 11593 (Protection and Enhancement of the Cultural Environment); and Title 36, Code of Federal Regulations, Part 800 (Protection of Historic Properties).* Section 106 of the National Historic Preservation Act of 1966 requires Federal agencies to consider the effects of their undertaking on properties meeting criteria for the National Register of Historic Places. The regulations in 36 CFR Part 800 describe how Federal agencies are to identify historic properties, determine effect on significant historic properties, and mitigate adverse effects. Section 110 of the 1966 Act codifies the salient elements from E.O. 11593, “to ensure that historic preservation is fully integrated into ongoing programs and missions of Federal agencies.” Section 110 also requires each Federal agency to establish a program leading to inventory of all historic properties on its lands.
- T *Archaeological and Historic Preservation Act of 1974.* This Act amends the Reservoir Salvage Act of 1960 to expand its provisions to the preservation of historic and archaeological data in all Federal or Federally assisted or licensed construction projects that might otherwise be lost. This Act directs Federal agencies to notify the Secretary of the Interior whenever they find a Federal or Federally assisted, licensed or permitted project may cause loss or destruction of significant scientific, prehistoric or archaeological data. Funds may be appropriated, donated and/or transferred for the recovery, protection and preservation of such data.
- T *The Native American Graves Protection and Repatriation Act of 1990.* Directs Federal agencies to protect Native American human remains and associated burial items located on or removed from Federal land.
- T *Federal Farmland Protection Policy Act of 1981, as amended.* This Act is intended to “minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses, and too assure that Federal programs are administered in a manner that, to the extent practicable, will be compatible with State, unit of local government, and private programs and policies to protect farmland.”

- T *Clean Water Act (Section 401 and 404).* Section 404 of the Act is intended to protect access to and quality of the nation's waters by preventing the unnecessary loss of wetlands and other sensitive aquatic areas. Section 401 of the Act requires water quality certification prior to the issuance of a 404 permit and for other activities discharging into a water body.
- T *Rivers and Harbor Act (Section 10 of 1899).* Section 10 of this Act regulates the placement of fill in navigable waters of the United States.
- T *Executive Order 11988.* E.O. 11988 directs Federal agencies to (1) avoid development in the floodplain unless it is the only practical alternative, (2) reduce the hazards and risks associated with floods, (3) minimize the impact of floods on human safety, health, and welfare, and (4) restore and preserve the natural and beneficial values of the floodplain.
- T *Executive Order 11990.* E.O. 11990 directs Federal agencies to (1) minimize destruction, loss, or degradation of wetlands and (2) preserve and enhance the natural and beneficial values of wetlands when a practical alternative exists.
- T *Executive Order 12372 (Intergovernmental Review of Federal Programs).* In compliance, the Service will send copies of the CCP/EA to State Planning Agencies for review.
- T *Executive Order 12996 (Management and General Public Use of the National Wildlife Refuge System).* E.O. 12996 provides directives to the Secretary of the Interior on compatible wildlife-dependent recreational activities (hunting, fishing, wildlife observation, photography, environmental education, and interpretation).
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VIII. DECISION FRAMEWORK

In compliance with the National Environmental Policy Act of 1969, the Regional Director for the Great Lakes-Big Rivers Region of the Service will use this Environmental Assessment to select 1 of 5 alternatives (Chapter 2) and determine if the alternative selected will significantly impact the quality of the human environment. Following this decision and a 30-day public review, a final decision will be made by the Regional Director on whether to carry out the alternative selected.